

# SeaQuest Status

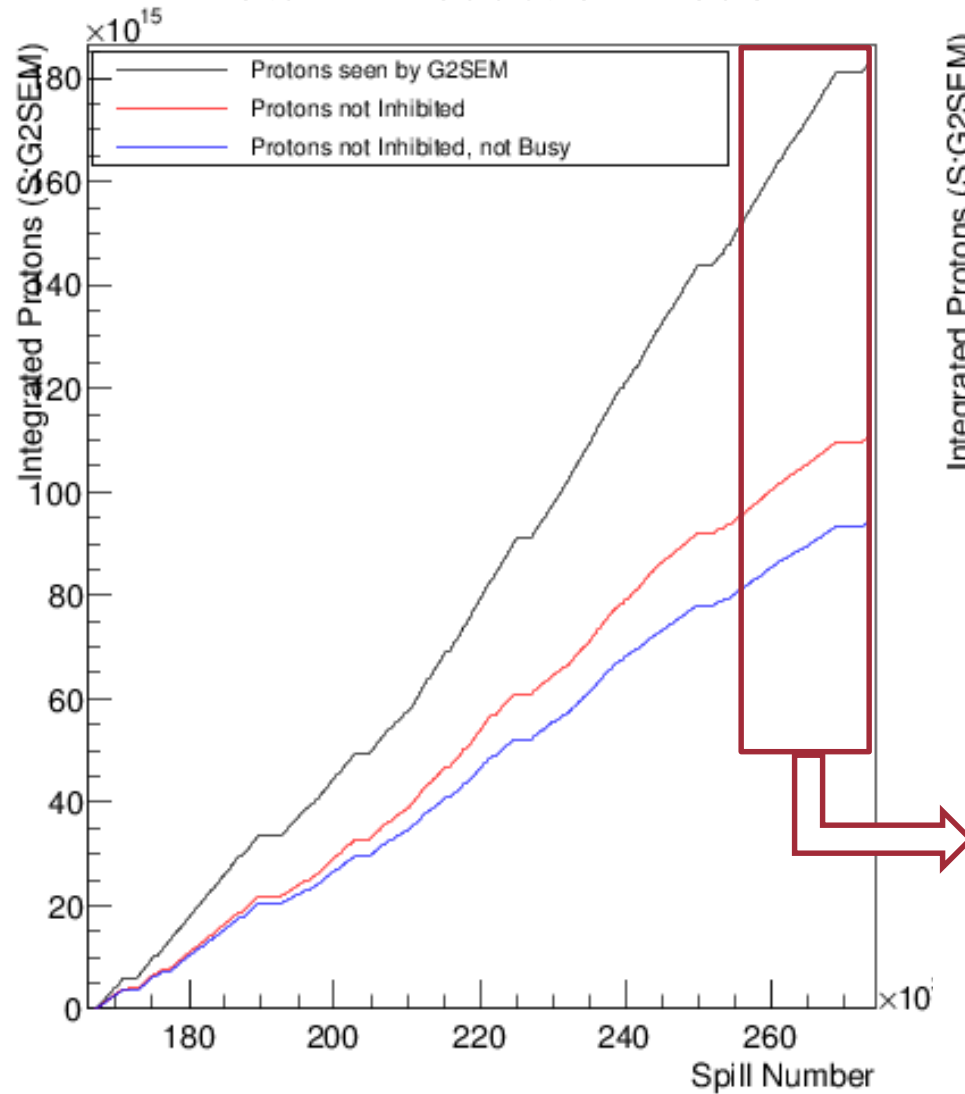
## May 19-June 1

Brian Tice

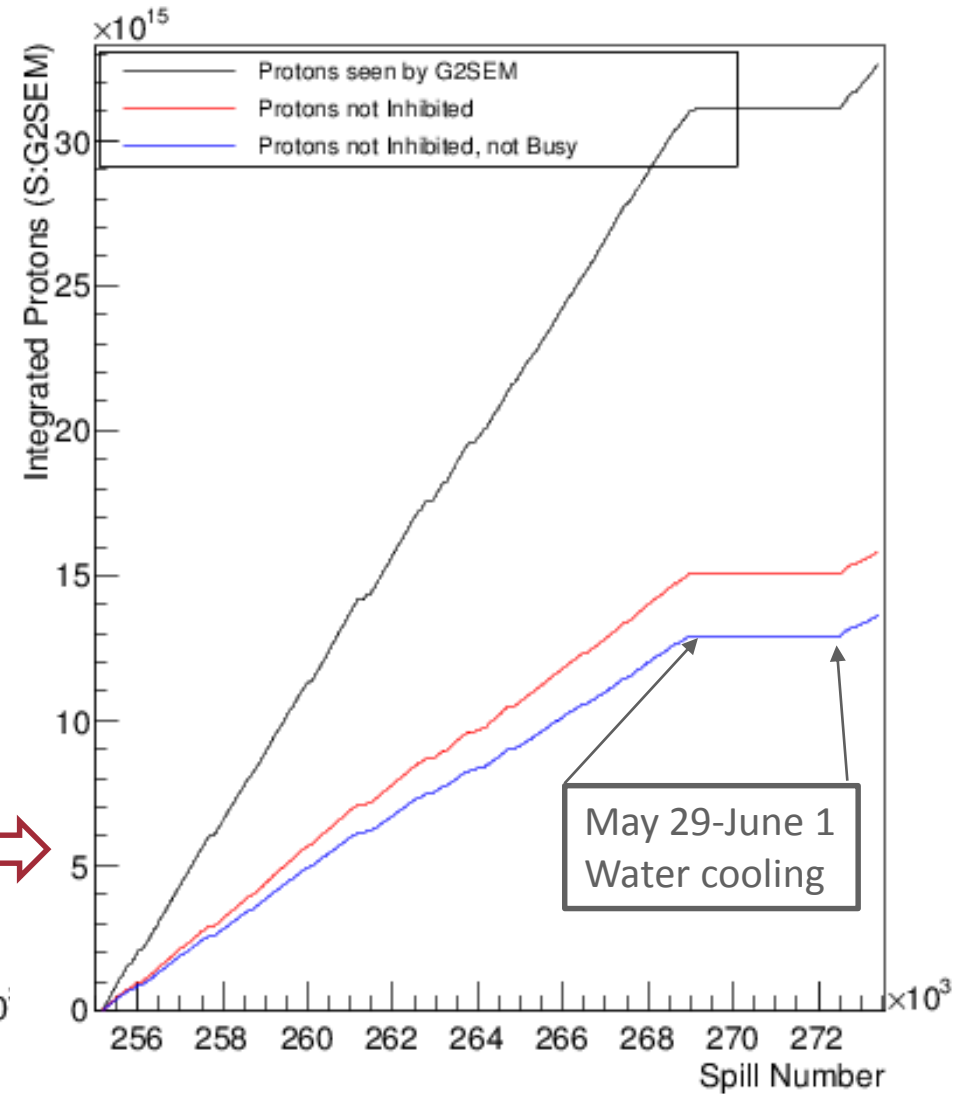
June 2, 2014

Note: Many have made invaluable contributions, but I name only students.

## Beam March 12 – June 1 Total in Production Mode



## Beam May 19 – June 1



# Continued Magnet Cooling Problems

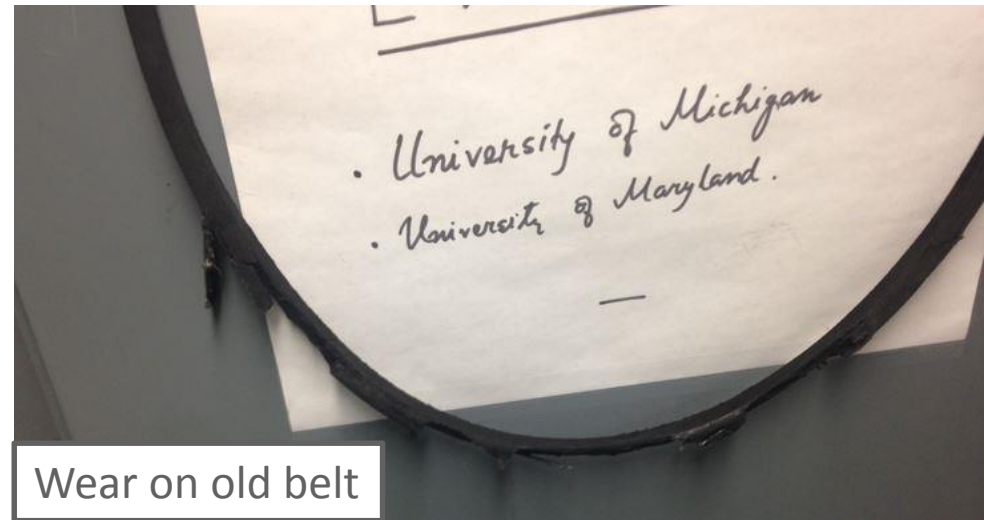
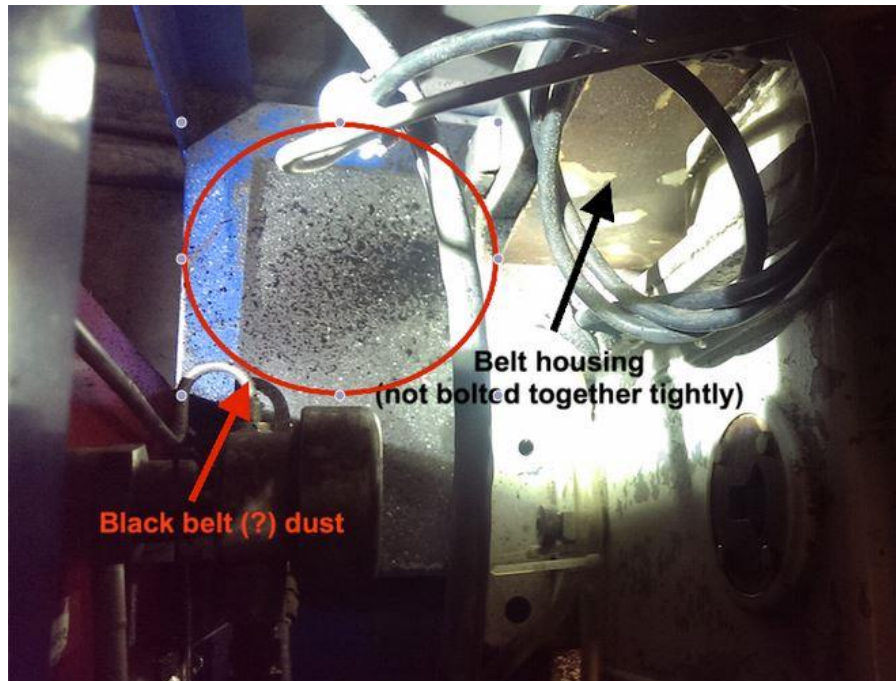
## air in system

- Continued bleeding air from magnet power source water cooling line (NS7)
  - Bleed was daily event
- May 28<sup>th</sup> – Problem getting worse. Need bleed every 12 hours.
- May 29<sup>th</sup> – Attempt to solve problem
  - 1 hr investigation of problem
  - Techs found problem at pump #2 at NS2
  - Were unable to get pressure to 40 psi, where we can power magnets
  - Techs worked for a very loooong time (thanks)
- May 30 - ... No beam. Use cosmic trigger...
- May 31<sup>st</sup> – Valved out bad pump 2
  - Water pressure begins to rise...
- June 1<sup>st</sup> – Water pressure good enough – **Beam Returns**
- Now – Back to bleeding air out as needed

# Target Updates

## Pump belt problem - May 23-24

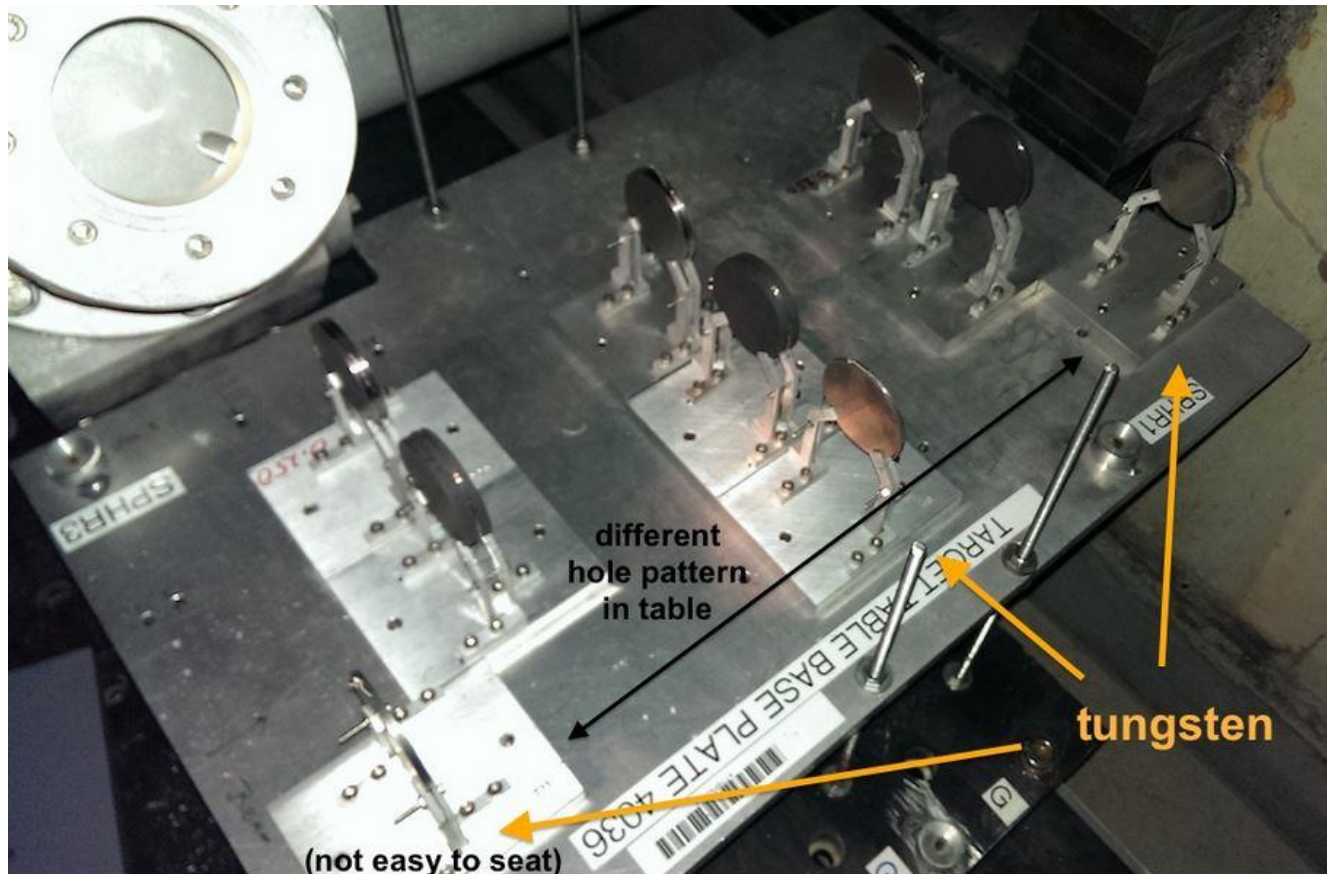
- Bryan Ramson (student) noticed noises from forepump of H2 target
- 2 experts from Dave Augustine's group and target team identify **bad belt**
- Bryan **replaced belt** with a spare
  - Clear improvement. **Problem solved until September shutdown.**
- Required warming, refilling, recooling, H2 target – completed May 26 - went well



# Target Updates

## Tungsten target added to target table! - May 30

- 3 tungsten disks (10% interaction length) added to target table
  - Entered rotation June 2



# Flammable Gas Monitoring Problems May 22-23

- 1 flammable gas detector **(FGD) replaced** – May 22
- Replacement sensor calibration drifted by 2% as of May 27
  - Possible sign of radiation damage. Continue monitoring.
- **VESDA sending alarm to MCR/fire but otherwise OK**– May 23
  - Calibration tested OK. Readings are correct.
  - Techs power cycle VESDA and problem goes away.
  - This is **not known behavior**.
- Key broke in door -> interlock broken -> small downtime.
- VESDA system reconnected to fire dispatch – **functioning normally again**
- Takes ~6 weeks to get VESDA replacement from Australia
  - One was ordered as spare for existing VESDA – should arrive in 1-2 weeks

# Miscellaneous

- Smoke alarm called fire dept. May 21 - resolved
  - A floor tile with detector had been replaced. Now smoke alarm is reinstalled.
- A noisy ASDQ card should be replaced by Arun Tadepalli (student)
  - Involves moving planes to gain access, wait for downtime

## Target

- 1 of 3 LH2 condenser temp. sensors gave bad reading several times
  - Nonphysical value reported (-2997K) means signal error – not pressure problem
  - 2 other sensors stable and indicate no problems
- Target table position monitor rebooted. Briefly gave false warnings.

## Trigger

- TDC firmware updates synch all clocks to 53MHz by Evan McClellan (student)
  - Removes board-to-board jitter – In testing phase
- Trigger supervisor CPU went bad, replaced by Grass Wang (student) May 26
  - Have only one spare on hand